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Adequate Public
Facilities Ordinances
and
Transportation
Management

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Chapter 3. Designing the Adequate Public Facilities Ordinance

This chapter illustrates the various policy decisions that must be resolved in the design and implementation of an adequate public facilities ordinance (APFO). In describing each policy issue, the discussion draws upon examples of concurrency/adequate public facilities legislation from various jurisdictions based upon a study conducted by the author for a jurisdiction in Florida and the preparation of a local concurrency management ordinance for Douglas County, Colorado. (See Appendices C and E.) By synthesizing the structure and mechanics of other programs, the reader will become familiar with the design, administration, and structure of APFOs. The author does not endorse the legality, equity, or administrative feasibility of any particular approach. Instead, the various approaches serve as examples of how other jurisdictions have addressed the issues associated with designing a concurrency management system.

Based upon the author's experience with the preparation of APFOs on a national level, the following issues have been identified as the most critical to the preparation of an APFO.

- *Determination of which facilities will be required as a condition of development approval.* In most jurisdictions, only roadways and intersections are evaluated for purposes of concurrency. In addition, facilities that can provide alternative modes of travel—such as public transit or pedestrian facilities—may also be evaluated or allowed as an alternative to the inclusion of roadways in the capacity equation.
- *The stage in the development process at which adequacy is determined.* The local government must determine the point or points in the development approval process at which a determination is made of whether facilities are adequate to accommodate the impacts of the development.
- *Developments or categories of development to which the APFO is applicable.* The ordinance should specify the categories of development that must seek an adequate facilities determination.
- *Exempt developments.* The agency should determine which, if any, categories of development are to be exempt from the ordinance. Exemptions create legal and administrative issues that are addressed in this chapter.
- *LOS standards.* An LOS standard is a measurement standard that describes the capacity and performance characteristics of each facility included in the APFO. The adopted LOS standard governs the rate and amount of development approvals, the quality of infrastructure, and the magnitude of capital investments for new facilities to correct existing deficiencies and to accommodate new growth. The agency should establish an LOS for each facility covered by the APFO.
- *Inclusion of state/federal facilities.* The ordinance should specify whether facilities funded and constructed within its jurisdiction by state or federal agencies—such as interstate highways—will be required as a condition of development approval and for compliance with the APFO.
- *Delineation of impact area.* The ordinance should delineate the geographic area within which facilities will be counted in the determination of facility capacity needed to serve the development.
- *Flexibility of impact area delineation.* The ordinance should specify whether the impact area will vary according to the type of development, type of facilities available, and geographic location, or whether the impact areas will be applied on a uniform basis for all types of development.
- *Administrative waivers.* If the jurisdiction wants to waive the application of the concurrency requirements for certain types of projects, it must determine whether the waiver will be granted administratively or through legislative action. The ordinance must include standards for waivers and assign decision-making responsibility.

- *Reservations of capacity.* As developments are approved or exempted, the demand for public facilities and services created by those developments will be "debited" or "charged" against available facility capacity. Accordingly, the ordinance should specify the duration for which facility capacity may be debited and should include other regulations governing capacity reservation.
- *Point system.* If the agency wishes, the ordinance can determine how the criteria for the measurement of facility capacity among all facilities will be weighted for purposes of development approval.
- *Official(s) responsible for conducting adequacy review.* The ordinance should make clear who is responsible for determining whether facilities are adequate to serve new developments.
- *Appeals process.* The ordinance should create a mechanism to handle appeals from decisions regarding project approvals, conditional approvals, and disapprovals, pursuant to the APFO.
- *Possibility for mitigation/abatement.* Developers denied approval under the concurrency provisions may want to advance those facilities needed in order to allow the project to proceed or to mitigate the impacts of the project on the relevant facilities and services. The ordinance should include criteria to evaluate a developer's willingness to advance facilities and developer-proposed mitigation measures, as well as regulations governing the reservation of capacity as facilities are advanced.
- *Differential LOS standards.* LOS standards may vary based on location, stage in development approval process, size of developments, or other criteria.
- *Developer reimbursement mechanisms.* Developers advancing and/or oversizing facilities in order to receive development approval or permission to build at an earlier date may seek reimbursement from the agency or other developers. The ordinance should set forth those situations where such reimbursement is necessary and, if so, how reimbursed amounts are determined, and a mechanism to effectuate the reimbursement.
- *Relationship of APFO to impact fees.* The ordinance should determine how facility capacity constructed from revenues derived from impact fees will be factored into the determination of adequacy for each developer.
- *Extent to which "planned" improvements are included in the determination of what constitutes adequate public facilities.* The ordinance should specify whether only existing facilities will be used to determine whether development may proceed, or whether facilities that are planned in the CIP may be counted. The ordinance should also specify which projects may include developer-contributed facilities in the adequacy determination.
- *Effect of failing adequate public facilities test.* Projects may be denied or conditionally approved where

facilities are determined to be inadequate. The ordinance should stipulate whether projects will be denied or conditioned, and specify appropriate mitigation procedures.

- *Relation of adequate public facilities determination to development monitoring.* A procedure should be developed to determine the demand for public facilities included in the APFO, what types of development will be included when determining the demand on public facilities, and the frequency of evaluation.

APPROVAL STANDARDS

This section explains the substantive standards that form the basis of a concurrency management system. Matrices are included which explain how these standards are measured and implemented in jurisdictions that have adopted APFOs.

LOS Standards

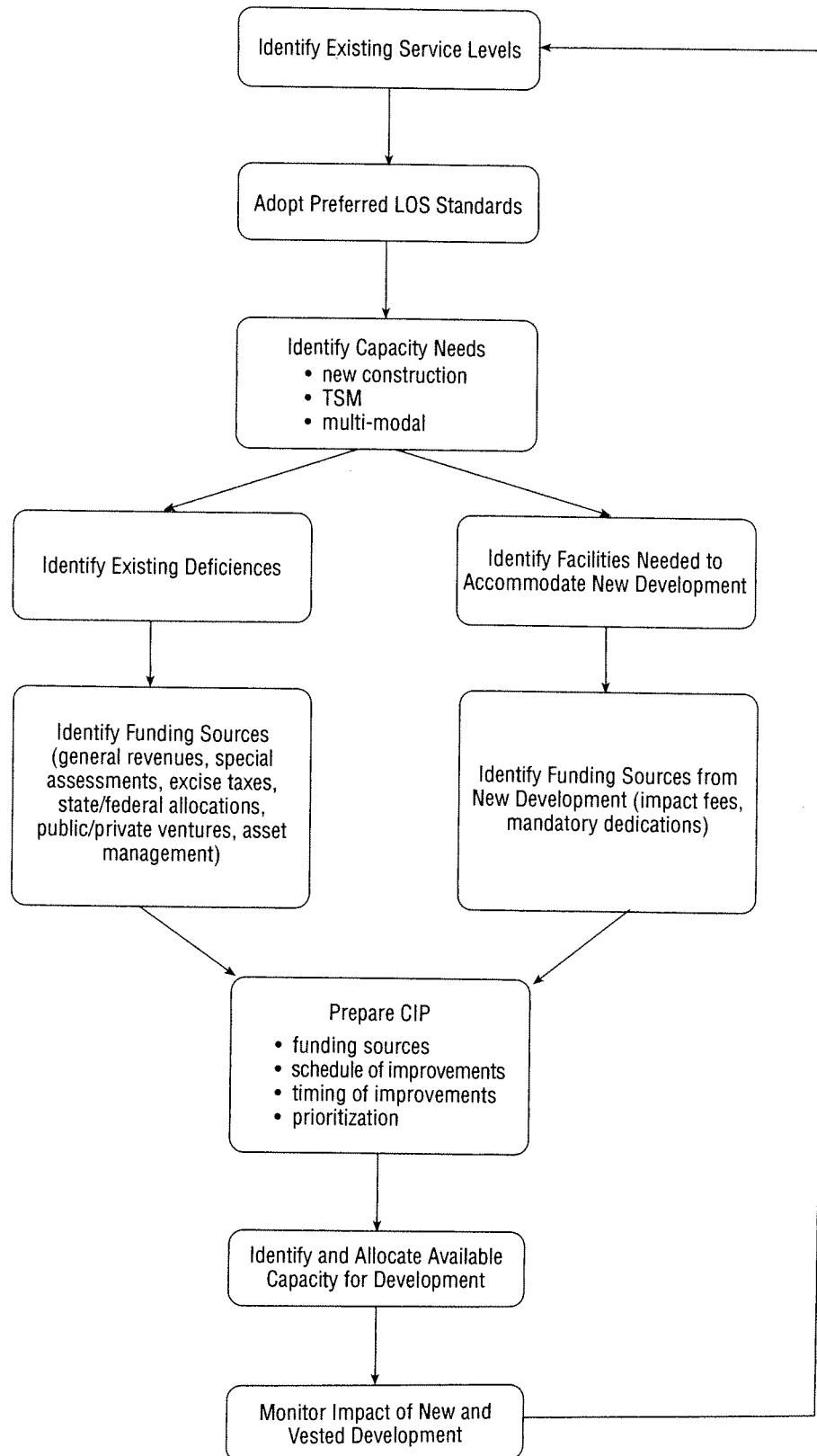
The cornerstone of a concurrency management system is the adoption of an LOS standard for transportation facilities. The Florida Department of Community Affairs defines LOS as follows:

"Level of service" means an indicator of the extent or degree of service provided by, or proposed to be provided by, a facility based on and related to the operational characteristics of the facility. Level of service shall indicate the capacity per unit of demand for each public facility. (Florida Administrative Code Sec. 9J-5.003(45))

As a means of measuring performance, an LOS standard should take into consideration both the capacity of a public facility and the demand currently placed and potentially placed on the public facility from existing development, approved developments, and projected future growth. By comparing the demand to the capacity of a public facility, local governments can determine how much of the capacity of a given facility may be allocated to development within a designated area following project approval.

The adopted LOS will govern the amount of growth and development allowed by the APFO and the level of public investment needed to achieve that standard. In addition, the LOS standard will determine the extent to which planned infrastructure capacity, as set forth in the CIP, is attributable to new growth as opposed to existing demand. As a condition of development approval, the costs of the former may be shifted to developers through impact fees and exactions, while the latter may be borne only through general funding sources. For example, if existing roadways are operating at LOS D, and the jurisdiction adopts an LOS standard C for concurrency, the local government cannot require a developer to upgrade the transportation network from D to C. However, if the local government adopts an LOS standard of D, a significant proportion of new capacity will be attributable to new development. The LOS will then provide a basis for adding new capacity to the transportation network and allocating

Figure 1. Concurrency Planning Process



The Transportation Research Board's *Highway Capacity Manual* (1985) defines LOS as a "qualitative measure describing operational conditions within a traffic stream and their perception by motorists and/or passengers." Traffic engineers rate roadway LOS on a scale ranging from A (free-flow conditions) to F (forced or breakdown flow). The *Highway Capacity Manual* generally defines LOS in terms of direct operational characteristics (e.g., speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety). Density (passenger cars per lane-mile) and speed are the parameters used by the Board to describe the performance characteristics of roads.

At the development permitting stage, it is difficult to link a specific development proposal to a change in speed for a particular roadway. However, traffic engineers can compute the traffic generated by a proposed development by applying the Institute of Transportation Engineers' *Trip Generation* manual, distributing estimated trips to affected roadways and comparing the resulting traffic volumes to the design volume of the affected roadways. The result is a *volume-to-capacity* ratio (*v/c* ratio), which can be translated into an LOS standard.

Table 1. Sample LOS Standards Based on Volume-to-Capacity Ratios

LOS	Highway Capacity Manual ¹	FDCA ²
A	0.33	0.30
B	0.50	0.50
C	0.65	0.75
D	0.80	0.90
E	1.00	1.00
F	Highly Variable	>1.00

¹Highway Capacity Manual standard for multilane highways with design speed of 60 mph.

²Florida Department of Community Affairs, *Model Transportation Element*, 9.

that capacity to new development. The process of planning for concurrency is summarized in Figure 1.

The adopted LOS standard is a policy decision regarding the appropriate equilibrium between private development and public infrastructure. The time required to plan and to construct major public facilities generally exceeds the time required to build private projects, and the construction of additional facilities or capacity is normally intended to serve both existing and future needs (i.e., investment in major public facilities tends to be "lumpy") (Montgomery County Planning Board, Oct. 1977, 1-9). As private development pressures and existing public infrastructure reach equilibrium, a method must be in place to allocate excess capacity and to define existing deficiencies for development permitting purposes. LOS standards are used to define this equilibrium by determining what proportion of population to specified public facilities or infrastructure capacity constitutes the appropriate LOS for an area. Based on this policy decision, the carrying capacity of existing, planned, and budgeted facilities may be determined for purposes of allocating excess capacity on a temporal basis, and applications for subdivision approval or rezoning may be denied where LOS is exceeded.

It is essential that the APFO contain standards that have some relationship or relevance to new growth and development. The LOS standard should not simply recite the demand created by a new development or the capacity of a particular facility. Instead, the standard should relate the demand for the public facility to the capacity of the facility through a ratio, since the ratio will change with new growth and development. For example, an LOS standard defined simply as the volume of traffic that a particular road segment can handle (i.e., the capacity of the segment) is not really a "level of service" standard since that capacity will not change with new growth and development. Similarly, simply referring to the LOS as the volume of traffic generated by a project is

not a useful standard for concurrency review purposes. To do so does not result in a comparison of that demand to the capacity of new and existing facilities to support it. Instead, a *volume-to-capacity* (*v/c*) ratio is preferable, since the reviewing agency can determine how the ratio changes as new growth occurs and as new facilities are added. (See Table 1.)

For concurrency purposes, the following factors should be considered when choosing an LOS:

- The relationship of the standard to health, safety, and welfare
- Whether the standard is attainable given: available funding sources; the feasibility of construction and right-of-way acquisition; factors beyond the control of the local government (e.g., externally generated traffic); and the period of time over which the standard is to be achieved
- Consistency with state standards or standards adopted by other service providers¹
- Consumer behavior, including peaking characteristics, whether use is increasing or decreasing, and substitution principles (e.g., substitution of mass transit for automobile use; recycling; or water conservation)

Few jurisdictions have developed useful standards for multimodal systems that include public transit. In Florida, most standards embodied in the comprehensive plan relate solely to performance characteristics of the system and are probably not intended to be enforced through the development approval process (e.g., "nine passenger miles per capita," "0.75 percent of all county transportation trips"). For example, in Palm Beach County, Florida, the APFO provides that new development permits shall not cause the county's total mass transit capacity to fall below "that which can accommodate three quarters of one percent (0.75%) of the total County transportation trips." In Dade County,

Florida, the LOS standard is based on a policy that public transit services have 60-minute headways and an average route spacing of one mile in areas with resident and employment populations of 10,000 persons per square mile. The LOS standard is calculated on the basis of "traffic analysis districts." Transit service is not required if densities within the traffic analysis district fall below this standard. If the standard is met, the developer must estimate the additional vehicle miles, vehicle hours, and vehicles needed to operate additional transit service. If the service is considered economically feasible, based on transit district ridership forecasts, the ridership projections are applied to the population and employment figures to determine whether increased transit is needed. These standards are difficult to link to proposals for new development.

There are several policy and operational issues associated with applying a transit LOS. First, transit facilities are often underutilized and require high densities in surrounding areas to achieve feasible ridership levels. Second, limitations on growth and density in transit corridors may encourage growth to occur first in areas with existing excess roadway capacity. This may have the effect of undermining the overall people-carrying capacity of the transportation system by encouraging the use of transportation facilities (such as roadways) that have lower volume capacities than most public transit facilities.² Some jurisdictions have developed innovative approaches to multimodal systems by either aggregating LOS standards on an area or corridor basis by adjusting LOS to reflect the availability of transit or by combining

roadway and transit or high-occupant-vehicle (HOV) facilities to develop a carrying capacity for the overall system (KJS Associates 1995).

Minimum Requirements Assigned by Stage in Development Review Process

Once the applicable LOS for purposes of issuing development permits and initiating capital investment and budgeting strategies has been identified, the decision maker must resolve the issue of when the LOS must be attained in order for development to proceed. In other words, how much "lag time" will the agency tolerate between the construction and occupancy of the development and the availability of the facilities needed to serve the development? The question of when facilities must be available and how they will be guaranteed is referred to by the Florida Department of Community Affairs regulations as the "minimum requirements" for concurrency. Figure 2 illustrates how the consideration of programmed facility capacity may vary according to a project's stage in the approval process.

It should also be kept in mind that the minimum requirements issue is distinguishable from the LOS that must be attained when those facilities are available. While the adopted LOS could affect an agency's policy decision regarding the minimum requirements imposed for availability—and vice versa—the standards are distinguishable. The former refers to the *capacity* and/or *quality* of the facilities while the latter refers to *when* the facilities must be available, the *stage in the planning process* that the facilities must have proceeded to in

Figure 2. Measuring Development Progress Against Facility Availability

Gestation Period for Public Facilities:				
T I M E	Planning	Included in CIP	Included in CIP	Construction Complete
			Right-of-Way Acquisition	
			Construction Contract Let	
Gestation Period for Private Development:				
T I M E				Building Permit/ Certificate of Occupancy
		Preliminary Plat Application for Conditional Use Approval	Final Plat Final Development Plan	
	Rezoning/ Plan Amendment			

order to be considered available for purposes of calculating the LOS, and how the facilities will be *guaranteed* or *provided* at the time of concurrency evaluation or permit issuance.

Minimum requirements depend primarily on two factors: (1) the stage in the development process at which the project is reviewed and (2) the type of facility involved. The first variable relates directly to the "lag time" issue. Early in the development process, for example, it is not essential for purposes of concurrency that public facilities be in existence. The need for public facilities to be in place is greatest when the impacts of the development are imminent—such as at the building permit stage. Planned improvements, however, may be counted when the evaluation occurs early in the development process.

Minimum requirements may also vary depending on the type of facility involved. The rationale is that (1) some facilities are more directly related to public health, safety, and welfare than others, and (2) some facilities may require a longer or more unpredictable acquisition and planning process than others. For example, the Florida regulations have historically permitted a three-year lag time for transportation facilities, while the Washington legislation provides that transportation facilities must be in place within six years of permit issuance.

IMPACT ANALYSIS

The standard of review for concurrency involves a determination of whether there is *available facility capacity* to serve a proposed development by comparing *total facility capacity* in the impact area to *current demand* and *projected demand* for those facilities. Standard engineering and planning procedures exist for estimating the impacts of a land development project. Evaluation of those impacts within the context of a concurrency management system, however, raises important administrative questions. For example, while it is obvious that the impacts of existing residents and employees and the project subject to review must be considered, the impacts created by approved but unbuilt projects should also be considered. Failing to measure the impacts of approved but unbuilt projects may result in an overestimation of the capacity available to serve new development. However, counting the impacts created by approved but unbuilt projects may *underestimate* the actual net capacity of a facility (total capacity less amount allocated to existing and approved development). Some proportion of those projects can be expected not to proceed to construction.

The procedures for measuring available capacity differ primarily in their treatment of background growth (i.e., the demand created by approved but unbuilt development as well as demand created by other sources, such as traffic generated outside of the jurisdiction and from natural increase). In general terms, the determination of concurrency may take one of the two basic forms, described in the following sections.

Alternative 1: Project-Specific Tracking. This alternative requires the reviewing agency to

account for all development that is approved under the ordinance as permits are approved. The demand for public facilities that will be created by each approved development will be "debited" against available capacity. Under this system, some permits can be excluded where they occur early in the approval process and where facility capacity has not been reserved. For example, approved preliminary plats may be excluded from the tracking system, since only a small proportion will ever proceed to final approval and construction. On the other hand, a designated percentage of all permits can be counted based upon the proportion of such permits that have historically proceeded to construction and occupancy (e.g., 50 percent of preliminary plats, 75 percent of final plats, and 95 percent of building permits). (See Figure 3 for formula.)

Alternative 2: Generalized Determination of Background Growth. Under this system, the permitting agency would account for approved but unbuilt development by estimating the amount of new demand that has been created for public facilities from the jurisdiction's historic and projected growth rates, rather than through a permit-by-permit tracking system. This system is easier to administer but is less accurate, and could create problems where development activity is much higher than normal. (See Figure 4 for the formula.)

The difference between Alternatives 1 and 2 discussed above lies in the procedure for tracking that portion of background growth attributable to new development and permitting activity. In order to obtain a true picture of the demand on public facilities and services that will exist when the impacts of a development occur, the agency should develop a mechanism for counting background growth. The alternatives for estimating background growth include:

- 1) tabulating projects that have proceeded to a certain stage of the approval process and entering the demand created by those developments into the tabulation as those permits are granted (which will require a policy decision by the agency as to which development permits to track, based upon the likelihood of project completion and administrative capabilities);
- 2) developing an adjusted growth rate on a periodic basis, based upon the rate of permit issuance over a given time period; or
- 3) tracking the demand for public facilities created externally, including the demand for public facilities created by natural increase.

In addition, the procedure for measuring capacity can take several forms. First, the agency could measure the LOS for each public facility as each new development is reviewed. This is the most common approach.

Second, the agency could predetermine the "carrying capacity" of the area within its jurisdiction or of

Figure 3. Accounting for Capacity for All Approved Development Using Permit Tracking	
Formula: $AC = (C_e + C_n) - (D_e + D_p + D_r + D_{ido})$	
W H E R E	AC = capacity available to serve new development
	C_e = capacity provided by existing facilities at the adopted LOS
	C_n = capacity of new or planned facilities, as determined by the minimum requirements
	D_e = demand created by existing and vested development
	D_p = demand created by the project under consideration
	D_r = demand created by developments with capacity reservations
	D_{ido} = demand created by other developments with approved permits

particular areas within its jurisdiction, based on the LOS standards adopted for each public facility. An areawide growth limit could then be imposed that limits population and employment to that amount that can be supported by existing and planned public facilities. Several counties in Florida have combined the case-by-case approach with the second approach by creating "deferral areas." A "deferral area" is a specifically designated area where facilities are deficient. New development within those areas is either deferred until the facilities needed to rectify the deficiencies are available, or it is subject to special review procedures and minimum requirements.

Third, the agency could adopt a "point system" that enables the reviewing agency to balance concurrency review with other public policies and that could include a "weighting system" on the capacity and availability of public facilities for purposes of concurrency review. For example, the agency could assign point scores for the availability of a specified amount of capacity for each public facility and for the achievement of other public

policies, such as the provision of affordable housing. Thus, a project that would create a deficiency in one public facility, such as transportation, could receive approval if a compensating point score is achieved for other public facilities or for the provision of other public benefits.

Finally, the projected impact of a development project could be reduced by incorporating mitigation measures. The most common example is Transportation Demand Management (TDM) measures, which may be used to reduce the traffic-generating impacts of a development through ridesharing, transit subsidies, and staggered work hours. If this approach is taken, it is critical that mitigation, monitoring, and enforcement mechanisms be established to ensure that the measures are actually implemented following project approval.

Compliance with the applicable LOS is determined by comparing the projected impacts of a project with the capacity of those facilities affected by the project. Thus, the agency must address two issues.

Figure 4. Estimating New Demand for Facilities Based on Historic and Projected Growth Rates	
Formula: $AC = (C_e + C_n) - (D_e + D_p + D_g)$	
W H E R E	AC = capacity available to serve new development
	C_e = capacity provided by existing facilities at the adopted LOS
	C_n = capacity of new or planned facilities, as determined by the minimum requirements
	D_e = demand created by existing and vested development
	D_p = demand created by the project under consideration
	D_g = demand created by the developments with capacity reservations and approved development orders based upon generalized background growth rate

1) *The geographic area affected by the project, known as the "impact area" or "evaluation area."* All facilities within that area must be available at the designated LOS.

Jerry Weitz, an Urban Growth Management Specialist with the Transportation and Growth Management Program of the Oregon Department of Land Conservation and Development, identifies the following four approaches to impact area measurement: parcel level, district/zone level, plan level, and regional level (Weitz 1996). A parcel-level analysis measures abutting or nearby streets, and involves a fairly simple computational approach for transportation engineers. However, this method tends to understate the true areas of impact created by larger developments. The district- or zone-level approach, employed by Montgomery County, Maryland, uses an areawide LOS or a summation of volumes and capacities ("summing") within a designated policy area (Savage 1993). Some jurisdictions also use "screenlines" across parallel corridor routes coupled with a sophisticated modelling analysis within the zones. The plan approach loads the traffic resulting from the buildout of the plan horizon onto the existing and proposed roadway system, using summing, LOS averages weighted by lane miles or VMT, or performance summaries that specify lane miles or VMT which exceed the LOS. While the regional-level approach is often used for analytical purposes by Metropolitan Planning Organizations, it is rarely employed in an enforceable concurrency management system. The State of Washington requires local LOS to conform to the regional transportation plan prepared by the MPO.

2) *Whether facilities will be excluded because of the jurisdictional responsibility for their provision (e.g., state or federal highways).*

In some states, like Florida, federal or state facilities are sometimes excluded on the grounds that the local government lacks authority to provide or to expand the facilities. The failure of another entity to expand the facility when needed to secure development approval could result in a *de facto* moratorium, thus creating possible legal challenges and interfering with the agency's timing and sequencing goals. Intergovernmental agreements can alleviate this problem. The agency should also consider whether facilities provided by other governmental entities are to be included in the measurement of capacity.

In addition, the agency may wish to vary the LOS standards applicable to each public facility by geographic area, over time, or by type of project. LOS standards may vary by geographic area in order to allow flexibility in the achievement of other public objectives, such as promoting infill development. LOS standards may also vary by geographic area where substantial deficiencies exist or where environmental or other constraints prevent facility expansion (these are sometimes referred to as "backlogged" or "constrained" facilities). For example, the Florida regulations provide that LOS standards may be "tiered" over time in order to avoid the harsh effect of an immediate, high LOS on the growth and development in a jurisdiction. To

achieve this result, one standard can be set for purposes of review for some specified period of time subsequent to adoption of the APFO, with a higher standard taking effect at a specified future date.

The use of standard procedures for traffic impact analysis has become fairly common in jurisdictions with APFOs. These procedures are a prime example of the application of impact areas and impact evaluation principles discussed in the previous sections. Because roadways are a networked, open-ended facility, it is essential to establish clear criteria for the establishment of impact areas. Traffic impact analyses are generally required of the applicant for development approval as a part of the application process. Flexible provisions should be included in order to account for factors beyond the control of the developer and the agency, such as regional pass-through traffic. Special provisions may be included for the implementation of measures that mitigate traffic generation, such as mixed uses and TDM. If the agency does not wish to undertake a full-blown review for all projects, a compliance threshold should be established. For roads, the ordinance should indicate whether intersections, or links, or both, should be evaluated.

ALLOCATING CAPACITY

Once available transportation capacity has been determined, a procedure might be devised for allocating such capacity to competing development proposals. Most concurrency management ordinances fail to address this issue. In general, capacity is allocated on a first-come, first-served basis as development applications are processed. However, where the threshold of available capacity is constricted by new development, the agency might wish to consider allocating capacity only to projects that achieve important goals and objectives of the comprehensive plan or that should be granted preferential treatment for hardship or other reasons (Chinn and Garvin 1992).

The first alternative for allocating capacity would be the use of a *set aside*. Under this system, a percentage of available capacity is reserved for certain types or categories of development. For example, in Montgomery County, Maryland, projects defined as affordable housing may be approved where the available capacity threshold in the applicable impact area has been exceeded, provided, however, that such projects must be reviewed for their impacts on localized facilities (nearby intersections and roadway links). A similar policy is authorized by New Jersey's Council on Affordable Housing, which administers that state's housing policies for local governments. In addition, Montgomery County's program allocates capacity to residential and nonresidential projects within each impact area in such a manner as to maintain a favorable ratio between jobs and housing. This is accomplished by computing a separate development threshold within each area for employment and housing.

A second alternative would be a *point system* that enables the reviewing agency to balance concurrency review with other public policies and that could include a "weighting system" for determining the capacity and availability of public facilities for purposes of

concurrency review. For example, the agency could assign point scores for the availability of a specified amount of capacity for each public facility and/or for the achievement of other public policies, such as the provision of affordable housing. Thus, a project that would create a deficiency in one public facility, such as transportation, could receive approval if a compensating point score is achieved for other public facilities and/or for the provision of other public benefits. Care must be taken that the minimum requirements set forth in the regulations are not violated and that the evaluation criteria are specifically delineated.

A point system or set-aside can be tailored in a nearly infinite number of ways. Development orders can be "batched" during an annual allocation process and ranked under the point system, with development orders issued only to those projects earning the highest scores. The two alternatives could also be combined. A certain proportion of available capacity could be set aside for those projects earning the highest ranking under a point system. The alternative methodologies for ranking and allocating projects are limited only by the agency's imagination.

CONCURRENCY REVIEW PROCEDURES

Provisions should be included in the ordinance to inform applicants for development approval and the reviewing agencies of the procedures and scope of the concurrency provisions. These provisions are discussed in the following paragraphs.

Defining When to Test and Enforce Concurrency

The ordinance must make clear the stage in the development review process at which concurrency is *tested* and the stage in the development review process at which concurrency is *enforced*.

The stage at which adequacy is tested refers to any stage in the development process at which the current and projected capacity of public facilities is compared to the current and projected demand for public facilities. This evaluation may occur more than once during the entire development review process. The evaluation need not show that facilities are currently adequate to serve the development so long as facilities will be adequate when the impacts of the development occur.

The stage in the development process at which concurrency is enforced refers to the stage at which the adequacy evaluation must indicate that facilities are adequate to serve the development in order for the permit to be approved or issued. For example, a nonbinding adequacy review may occur at the preliminary plat stage, subject to the condition that facilities will be adequate at the final plat and building permit stage. Under that type of review process, a preliminary plat could be issued even if the adequacy evaluation indicates that facilities are not currently adequate to accommodate the impacts of the development. However, the applicant would not receive final plat approval or building permit issuance until a later evaluation indicates that facilities are adequate to accommodate the development.

Concurrency evaluation and enforcement may occur at the same stage in the development approval process.

(See the discussion of "Minimum Requirements Assigned by Stage in Development Review Process," above.) For example, the evaluation and enforcement of concurrency could be deferred to the building permit stage. This approach provides the advantage of administrative convenience, yet may offer little certainty in the development approval process. Conversely, concurrency could be tested and enforced at the preliminary plat stage. This approach provides certainty to subdividers who pass the concurrency test. However, it could result in the consumption of significant amounts of capacity by speculative plats that may never proceed to final approval.

As an alternative, the agency may test for concurrency at a relatively early stage in the development approval process, while enforcing the concurrency standards at the final approval stage. For example, the adequacy evaluation could be made at the preliminary plat stage. The agency would then require the developer to demonstrate that facilities are "adequate," as demonstrated at the preliminary plat stage, in order for the developer to receive a final plat and/or building permit. Testing for the adequacy of public facilities may occur prior to the final development approval stage in order to provide greater certainty for developers and to deny approval or impose conditions before substantial investments have been made. The agency should specify whether approval is binding and set a time limit by which subsequent approvals must be secured or by which construction must proceed in order to prevent the hoarding of capacity. Figure 5 illustrates the advantages and disadvantages of enforcing concurrency at an early stage in the development process.

Designating Responsibility for Review

The local government should clearly designate which agency is responsible for conducting the concurrency review and the procedure for seeking approval. Generally, the planning staff assumes responsibility for concurrency review and permit issuance. However, the agency may also wish to include those departments with primary responsibility for the mandated facilities. The specific administrative and technical methodology for conducting concurrency review should be set forth in the ordinance and/or in a procedural manual. Some jurisdictions use a procedural manual to explain the technical aspects of concurrency review, including both technical and procedural requirements, in layman's terms.

Exemptions and Waivers

Exemptions may be considered for purposes of administrative efficiency where projects have minimal effect on public facilities. However, care must be taken to ensure that exemptions do not result in a degradation of LOS for public facilities. At the same time, it should be kept in mind that building permits are often required for construction activities that do not affect public facilities, such as signs and accessory structures. In addition, exemptions may also be used to encourage development activities that promote other public benefits, although the criteria or categorization of such projects should be carefully delineated and supported by planning data.

Figure 5. Stage in the Development Process at which Test for Concurrency Is Enforced

Option	Advantages	Disadvantages	Comments
Preliminary Plat (early)	Amount of committed capacity clearly delineated, providing greater assurance for developers and a clearer basis upon which to project future demand for public facilities Enhances ability to put conditions on development proposals	Potential for hoarding of capacity Need to monitor committed capacity	Time limits may be imposed to prevent hoarding. Developers may be required to prepay impact fees or to provide other assurances in order to reserve capacity. There is a stronger equity argument for including planned improvements in adequacy evaluation.
Final Plat, Final Development Plan, or Building Permit	Closer relationship between facility construction and development impacts Administrative convenience; eliminates need to monitor committed capacity	Greater financial risk/less predictability for developers	Concurrency can be enforced at a late stage in the process while offering developers a nonbinding adequacy review early in the development process. Developers could then "reserve" capacity by providing the requisite assurances.
Enforcement at more than one stage	Facilitates monitoring of relationship between facility capacity and capacity committed to development	Greater administrative oversight needed	The effect of the evaluation—whether to provide a "preview" of available capacity at a later stage in the process or as a requirement for permit issuance—should be established clearly in the ordinance.

The agency might also consider the use of waivers for projects that have minimal impact on public facilities. Unlike an exemption, to which the landowner is entitled if its project meets the criteria set forth in the ordinance, a waiver requires administrative action. If waivers are used, the criteria for the waiver should be set forth with particularity, and the justification for the waiver should be supported by planning data.

If either waivers or exemptions are used, the agency should carefully monitor those projects using an exemption or waiver in order to assess their cumulative impact on public facilities.

ENFORCEMENT

It is essential that the ordinance clearly set forth what happens when facilities are not adequate at the time of evaluation. If capacity is found inadequate, the agency has the following options:

- Deny approval
- Condition approval on the adequacy of public facilities at the time at which final approval is received
- Impose phasing conditions so that development is timed and sequenced to occur with the availability of planned facilities.

When facilities are found adequate before a final development order is issued, it must be determined whether this finding "reserves" that capacity for the development or whether a new finding must be secured at a later stage in the development approval process. If planned facilities are included in the earlier finding, the ordinance must specify whether the reservation remains valid in the event that the facilities do not proceed to construction. In addition, reservations of capacity must be integrated with the development monitoring procedures in order to prevent the overallocation of capacity. Procedures also should be developed to prevent the "hoarding" of capacity by approved but unbuilt projects.

Some concurrency ordinances allow developers to construct the necessary facilities and services needed to reach the adopted LOS where the development would otherwise be delayed or denied. If such a provision results in the construction of facilities beyond those required by the development, it must be determined whether the developer will receive reimbursement for the excess capacity provided and whether the excess capacity may be allocated to other projects. Thus, where facilities are currently operating below the adopted LOS, the local government has five options:

1. For deficient roadways, the agency may allow development to proceed if it will not cause the

existing LOS to be degraded. This requirement would be satisfied by the construction of facilities or payment of an in-lieu fee by a developer sufficient to accommodate the full impacts of the development.

2. The agency could require the denial of development approval or the deferral of development approval until the facilities are operating at the adopted LOS. Thus, development would be delayed until the necessary improvements are scheduled in the CIP. In addition, no mechanism would be created to allow a developer to correct the roadway deficiency so that the development could proceed at an earlier date than anticipated in the CIP. This approach could delay development for indefinite periods of time, thereby subjecting the agency to takings liability.
3. The agency could deny or defer development, as discussed above, but add a provision allowing the developer to construct the facilities necessary to meet the adopted LOS standard. This is known as the "mitigation" or "abatement" of existing deficiencies. If the developer provides facilities in addition to those made necessary by the impacts created by the development proposed, is the developer entitled to reimbursement? The courts have not resolved this issue. The theory for not providing reimbursement is that the developer has voluntarily corrected the deficiencies, since the developer could have deferred construction pending public construction of the facilities as scheduled in the CIP.
4. The agency could adopt a denial or deferral procedure with a provision for mitigation or abatement, as discussed above. However, reimbursement would be provided according to a procedure adopted in the ordinance.
5. Finally, a monitoring system should be devised in order to determine the amount of capacity for each facility, the amount of capacity absorbed by existing development, and the amount of capacity that will be absorbed by approved but unbuilt projects. The critical decisions in establishing a development monitoring system include:
 - *Deciding which permits to monitor.* Monitoring only building permits could underestimate potential demand on the jurisdiction's public facilities and services, since development permits occurring earlier in the approval process—such as subdivision plats and conditional use permits—will have already been issued. Conversely, monitoring all subdivision plats, conditional use permits, and building permits issued will overstate demand, since only a fraction of those permits issued early in the approval process will proceed to construction. A better approach is to count all permits approved late in the approval process (e.g., building permits and certificates of occupancy), and only that fraction of permits occurring earlier in the process that historically proceed to construction. This will provide a fairly

accurate estimate of potential demand for public facilities and services although the vagaries of the real estate market prohibit pinpoint accuracy.

- *Deciding how often to produce monitoring reports.* Monitoring reports are generally employed to estimate available capacity for each facility and to provide a basis for the budgeting, scheduling, and prioritizing of capital facilities. Some jurisdictions (e.g., Monroe County, Florida, and Montgomery County, Maryland) provide monitoring reports on an annual basis. If staffing is sufficient, monitoring reports could be performed on a more frequent basis. As an alternative, monitoring could occur when the CIP is updated.
- *Deciding which agency will be responsible for monitoring.* Responsible agencies may include the planning staff, departments with jurisdictional responsibility for public facilities, or both, under the supervision of a designated department head.

RESERVATION OF CAPACITY

When a determination of concurrency is made at one stage of the development approval process, intervening development approvals or adjustments in the background growth rate could absorb the remaining available capacity. Consequently, if the developer proceeds to a stage in the development approval process, capacity might not be available. For example, assume that developer A has submitted a preliminary plat for the construction of 10 single-family dwelling units (DUs). If the affected roadways can accommodate 200 average daily trips (ADTs), the developer would receive a certificate of concurrency since the development consumes only half of all available capacity (10 DUs X 10 trips per day = 100 ADTs). However, subsequent to the preliminary plat approval, assume that final plats are approved for two additional 10-dwelling unit subdivisions within the same impact area (this analysis assumes that the monitoring program does not count approved preliminary plats). These two developments would consume all the capacity available within the applicable impact area. Therefore, there would be no favorable concurrency determination at the final plat stage of approval unless the developer agrees to defer building permits or to provide the facilities necessary to avoid a degradation in the applicable LOS. If the agency determines that facilities are available at the adopted LOS standards at a particular stage of the development approval process, the determination should indicate whether capacity is reserved for subsequent stages of the approval process.

In order to address this issue, some jurisdictions have developed "capacity reservation" policies to ensure that a determination of concurrency remains valid through successive stages of the development approval process (i.e., the available facility capacity is set aside for that project). If capacity is "reserved," facility capacity is "debited" against the capacity remaining for subsequent development approvals, and the developer receives assurance that financial commitments made at one stage of the approval process will not be jeopardized by a finding that

adequate facilities do not exist at a subsequent stage of the approval process.

The capacity reservation policy may affect the viability and, consequently, the level of development within the jurisdiction. From the individual developer's perspective, the most favorable policy tests concurrency early in the process and automatically reserves capacity throughout the approval process. However, this practice may not be favorable to the development industry in the aggregate nor the agency's planning process. Under this procedure, developers who are first in line for initial approval could hoard capacity for speculative projects that may never proceed to construction. In addition, staff would be required to track committed capacity for initial development orders, such as preliminary plats, in order to ensure that it is not reallocated. This could create a waste of county resources with respect to the evaluation of projects that may never proceed to construction and occupancy.

The strictest policy requires a new evaluation of concurrency at each step of the approval process, without a capacity reservation policy. This would avoid some administrative costs associated with granting and tracking the reservation of capacity but may also be opposed by developers and landowners. For example, the agency could test concurrency at the preliminary plat, final plat, and building permit stages of approval, while monitoring only building permits issued. Therefore, a developer could meet the concurrency test at preliminary plat but not at the building permit stage due to intervening building permit approvals. This presents a risky scenario for developers but a somewhat less burdensome permit-tracking procedure for staff. The possibility of unanticipated delays late in the approval process increases the risk factor associated with development, which inhibits project financing and can be capitalized into higher home prices.

Some jurisdictions have adopted a policy that falls within one of these two extremes by reserving capacity only at an intermediate stage of the approval process (e.g., at the final plat stage or at final conditional use approval). However, if a developer has demonstrated a financial commitment to proceed to construction early in the approval process through the payment of impact fees or other commitments to capacity, the concurrency provisions should not present an obstacle at subsequent stages of the approval process. Conversely, developers who have proceeded to the final permitting stage, but who cannot proceed to construction, should have their capacity reallocated in order to allow subsequent applications to proceed.

Each alternative for testing concurrency and reserving capacity at various stages of the approval process has its advantages and disadvantages. (See Figure 6.)

Capacity may be reserved automatically or upon the payment of an appropriate fee. The jurisdiction may also use a combination of automatic reservation or fee policies. For example, the agency may want to reserve capacity automatically for a specified period of time and extend the capacity reservation for an additional period of time upon the payment of an appropriate fee. However, requiring the payment of an impact fee,

construction of facilities, or some other commitment prior to reserving capacity (rather than reserving capacity automatically) ensures that (1) only those developers committed to following through with construction will be allocated capacity, and (2) that funding will be available to provide the necessary facilities at that point in the development process at which the impacts of the development occur.

The ordinance may set forth a fixed time limit for reserved capacity, criteria by which abandonment may be determined, and provisions for reserving capacity in a development agreement. However, for developments in the approval pipeline, the period of time for which capacity is reserved could vary by its stage in the approval process. For example, the agency may wish to reserve capacity for the period of time needed to apply for the next permit in the approval process, with prepayment of impact fees needed to reserve capacity early in the process.

RELATED LEGAL AND POLICY ISSUES

Vested Rights

The effect of the concurrency requirements on property owners that have received some form of development approval, but who have not completed the approval process, is often the most hotly debated topic during the adoption of an APFO. For most land development regulations, there are many methods for dealing with vested rights, including leaving the entire issue to the courts, creating an administrative process for determining vested rights claims, grandfathering certain classes of development based upon how far they have proceeded through the process, or a combination of the above (Carlisle and White 1993). In addition, the agency may choose to "divest" grandfathered projects after a period of years if no construction has commenced, with the underlying theory being that the vested rights acquired, if not used for a long period of time, are deemed abandoned.

Many jurisdictions have adopted vested rights determination (VRD) procedures tailored specifically to concurrency regulations. The VRD procedure allows the decision maker to determine whether rights have vested and, if so, the scope of those rights. Some courts have ruled that vested rights as to the use, density, and configuration of development do not apply to different types of regulatory requirements, such as development timing or the payment of impact fees.³ If rights have vested, the procedure allows the local government to place a time limit on construction ("use it or lose it" requirements) in order to avoid the indefinite consumption of capacity by vested projects. In addition, some courts have upheld time limits on applications for vested rights or nonconforming use determinations.⁴ This allows the agency to track the demand for transportation capacity anticipated by vested developments.

The issue of divestment is politically controversial and raises some tough questions of constitutionality and statutory authority. While the legality of such a procedure has not been litigated in the concurrency context, some courts have allowed local governments to amortize nonconforming uses, which can be viewed as a form of "divestment" of vested rights. Amortization

Figure 6. Alternatives for Testing Concurrency and Reserving Capacity

Stage at which Concurrency Is Tested*	Stage at which Capacity Is Reserved	Method for for Reserving Capacity	Advantages/Disadvantages
Early	Early	Automatic	Maximizes certainty in the approval process, at least for those projects entering the process while capacity is still available. However, capacity may be hoarded by speculative developments.
	Early	Reservation fee	Reduces possibility of speculative hoarding; however, more capacity is reserved for development that may never proceed to construction. The early payment of fees allows jurisdiction to provide those facilities needed for development to proceed.
	Late	Automatic	Developments that have proceeded to this stage of the approval process are probably not speculative. However, reservation fees may be needed to fund facilities needed for development to proceed. Conversely, the late payment of fees enhances the developer's financial position, which reduces development costs. Reserving capacity late in the approval process provides less certainty for developers, since unanticipated delays may be experienced after funds have been committed to secure early development approvals. However, late reservations minimize the amount of staff time and resources needed for permit tracking and also minimize the possibility of lengthy hoarding of capacity that might otherwise be allocated to other developments. Requiring a reservation fee provides funding needed for development to proceed, although not in as timely a fashion as early payment of reservation fees.
	Late	Reservation fee	
Intermediate**	Intermediate or late	Automatic	Testing concurrency and reserving capacity late in the approval process provides the least amount of certainty for developers. This can be minimized somewhat by reserving capacity even without requiring the payment of reservation fees. However, money may still be needed to provide necessary facilities in a timely manner.
		Reservation fee	
Notes: * Stages in the approval process include: Early stages in the approval process = rezoning, preliminary plat, or application for conditional use approval Intermediate stages of approval process = final plat, final development plan approval (conditional use permit), certificate of compliance Late stages of approval process = building permit or certificate of occupancy ** Permits must be tested at early stages also if a specific plan of development is presented			

does not deprive a landowner of all use of the property, but requires the property owner to demolish existing uses after a reasonable period of time and to replace them with a legally conforming use. By comparison, the application of an APFO to a property owner with vested rights does not deprive the owner of the right to build but requires the owner to submit to concurrency review. Unlike amortization, the requirement to submit to concurrency review over a period of time does not mandate the destruction of a building or other land use.

Therefore, application of a concurrency requirement should have a minimal effect on a landowner's investment-backed expectations.

Urban Sprawl and Transportation Concurrency Management Areas

It is commonly believed that, where LOS standards are deficient or stringent, concurrency policies force development pressures outside of the enforcing jurisdiction because developers will seek approval in

areas in which traffic capacity is adequate. Accordingly, critics argue that transportation concurrency has the effect of increasing trip lengths and exacerbating the congestion problem that the concurrency standard was intended to resolve. Further, critics argue that concurrency has the effect of inducing urban sprawl and hindering the development or redevelopment of urban areas. Often, this argument is generally directed toward moratoria rather than APFOs (Cervero 1986; "Traffic-Linked Growth Control" 1989).

The author is aware of no empirical research that bears out these concerns. Furthermore, it is not clear that concurrency policies alone will completely alter the site location decisions of many developers. The presence of traffic is an indicator of the relative attractiveness of the jurisdiction for real estate development. Numerous site location decisions are based on the presence of increased traffic demands, rendering a site more marketable. For a developer to simply relocate as a result of concurrency policies would often mean that the developer has opted to trade the marketability of a tract of land for the right to build sooner. On the other hand, given the length of time it takes to secure financing and other governmental approvals, a developer might use the delay to his or her advantage. Timing and sequencing mechanisms are no more restrictive than the traditional land-use controls normally used to respond to traffic congestion. In fact, timing and sequencing mechanisms can—and often are—coupled with less restrictive underlying zoning schemes, as evidenced by numerous development agreements calling for the phasing of development over time. Moreover, outlying jurisdictions may not have the public facilities and services or complementary businesses needed to render the project buildable or marketable.

To the extent that these concerns are valid, they can be remedied by varying the LOS standards applied by the jurisdiction. First, lower LOS standards may be applied to areas close to the urban core, where traffic congestion is heaviest during the peak hour. This approach is realistic, consistent with other comprehensive planning goals in most jurisdictions, and reflective of consumer expectations. After all, concurrency is not designed to *eliminate* congestion but to *regulate* it. Second, separate growth ceilings may be calculated for employment and housing in order to minimize the effect of decentralized development on trip lengths and to try to maintain a balance between jobs and housing. Both of these approaches are used by Montgomery County, Maryland. (See Chapter 4.)

Transportation Concurrency Management Areas (TCMAs) are a framework for using concurrency management in a manner conducive to mass transit, economic development, and a desirable urban form. A TCMA is a discrete, functional area in which regulatory incentives and increased capital investment are applied through the concurrency management system. A TCMA may be used for the following purposes:

- Limiting sprawl development and concentrating important economic development opportunities
- Revitalizing built-up areas

- Protecting natural resources
- Providing a mix of residential and nonresidential uses

The TCMA approach has been adopted by the Florida legislature. (See Chapter 4.)

Mechanisms for structuring a TCMA include capacity allocations, exemptions, and regulatory incentives. For example, capacity could be allocated to designated nodes and centers. Identification of service levels and regional transportation improvements may be used to establish a *transportation carrying capacity*, which is then allocated to centers or TCMAs.

The carrying capacity would establish a ceiling on development. This would provide a basis for the allocation of capacity to centers/TCMAs and, because the capacity measure is regional, would also require that capacity used in centers be debited from the outlying areas. This would ensure that (1) capacity for regional centers is accorded a priority for use by developers, and (2) capacity is taken away from areas where development is assigned a low priority by the public sector, thereby ensuring that the goals and objectives of development in the regional centers are not thwarted by competition from outlying areas. Capacity in TCMAs could be allocated on a first-come, first-served basis or be subject to certain allocation criteria. The growth limit could apply *only* to outlying areas. In essence, capacity is allocated to TCMAs or growth centers solely by the free market—a concept acceptable to the business community. However, the total growth limit is (theoretically) not exceeded, since it is assumed that most of the trips generated in TCMAs will be transit oriented.

As an alternative, TCMAs or growth centers could be exempt from the system. The capacity not "used" by the exemption areas is reallocated to other centers. This places a ceiling on growth in the other TCMAs or growth centers; however, the ceiling would be higher than in the first example.

The TCMA approach relies on a flexible interpretation of concurrency requirements. The system may employ a *two-tiered* LOS standard. Instead of mandating compliance with a uniform LOS for every node, intersection, and link of the transportation system, the tiered system focuses on the transportation system as an entire network. An *areawide* LOS may be established, which provides a basis for the allocation of capacity, coupled with a *localized* evaluation or incentive system for particular areas. Rural service levels can be employed in outlying areas to prevent sprawl.

Other zoning and land-use controls may be used to complement the urban form promoted by the TCMA. Development in TCMAs may use innovative and flexible land-use techniques, such as bonus/incentive zoning, cluster development, planned unit development, transfers of development rights, and others. Densities in the range of 9-12 residential dwelling units per acre in designated growth centers can provide opportunities for the use of transit

facilities without jeopardizing the character of established neighborhoods. Neotraditional development and pedestrian pockets involve the use of attractive, single-family neighborhoods arranged in a traditional, grid street pattern clustered in proximity to transit facilities. These developments provide opportunities for pedestrian access to retail, office, and commercial facilities while blending into existing single-family neighborhood areas. Duplexes and townhouses can be located in proximity to transit facilities to provide housing opportunities to potential transit users. Streamlined permit processing and master environmental impact statements may be used to expedite approval for qualifying developments. Development agreements may be used to "reserve" an allocation of transportation/transit system capacity. A significant body of literature is now available to demonstrate how village and neotraditional design principles may be incorporated into zoning standards and project design (Calthorpe 1993; Duany and Plater-Zyberk 1991; Katz 1994; Kelbaugh 1989; Mohny and Easterling 1991; Sutro 1991; Unwin 1909).

CIP priority should be given to facilities in TCMAs. State bonding subsidies, such as general obligation bond backing for transit bonds, could be used to reduce interest rates and the tax burdens associated with financing transportation systems. TCMAs could be given preferential allocation of federal monies under the Intermodal Surface Transportation Enabling Act (ISTEA).

TCMAs should be geographically compact in order to focus development and to preserve the integrity and the carrying capacity of the transportation/transit system. Obviously, overuse has the potential of swallowing the concurrency system and minimizing the incentive for developers to build in the urban core.

Deficiencies

In many jurisdictions, concurrency is not applied until the transportation network is over capacity; that is, it is applied in response to overcrowded roads and intersections. However, significant reductions in congestion cannot be achieved overnight. The APFO should be based on a *realistic LOS that is attainable over a specified period of time*. Implementing an APFO involves a comprehensive planning process that recognizes that LOS deficiencies cannot be resolved by simply stopping growth or adding capacity. The two must be brought into sync over time.

Because the presence and degree of deficiencies are functions of how LOS is defined, some jurisdictions have taken a flexible approach to LOS that establishes long-term goals that account for the complexity of resolving congestion. In Florida, the original state concurrency regulations authorized a two-tiered LOS whereby a lower LOS would apply for purposes of development permitting, with the desired LOS becoming effective at date certain identified in the comprehensive plan. Florida has now adopted a procedure for a "long-term transportation concurrency management system," which is described in greater detail in Chapter 4.

Housing

Critics of concurrency often argue that the timing and sequencing mechanisms will drive up the cost of housing. In fact, however, most local governments already use traffic congestion concerns to deny or to delay proposed developments on an ad-hoc basis. By contrast, concurrency creates an entire planning process for providing the facilities needed to serve new housing and provides a numerical basis for evaluating development proposals. Accordingly, while the policies could have strict consequences, many developers report that the rules of the game are more definite and certain under a concurrency management system than under traditional zoning.

Some jurisdictions, such as Montgomery County, Maryland, (see Chapter 4) use housing as a key ingredient in the congestion equation. One of the primary reasons for urban decentralization has been the presence of affordable housing on the urban fringe due to the abundance of vacant, low-cost land. In Southern California, this situation has forced many commuters to travel for up to two hours for home-to-work trips (Fulton 1990). The lack of affordable housing is a major reason for the jobs-housing imbalance in many urban areas. Housing affordability can be promoted through adequate public facilities policies by creating exemptions or preferential treatment for qualified affordable housing projects ("Development Fees" 1990). A recent study of California cities indicates that there is no relationship between housing prices in communities with growth management programs and those without growth management programs (Glickfield and Levine 1992, 53-56).

Because the concurrency management system may limit the timing and amount of housing construction, it may adversely affect affordable housing objectives by limiting the supply of housing (thus effectuating a general increase in housing prices) and by directly deferring the construction of housing for low- or very-low-income persons. Several jurisdictions have adopted specific measures to address this issue. The Florida Department of Community Affairs has indicated that the following alternatives may be pursued in order to soften any impact of the concurrency management system on the construction of affordable housing, so long as the minimum requirements in the state regulations are satisfied:

- Reservation of capacity for affordable housing projects
- Targeting infrastructure for areas with sites designated for affordable housing
- Adoption of different concurrency standards for affordable housing
- Refund of fees that exceed the reasonable cost of administering the APFO (Florida Department of Community Affairs 1990)

Montgomery County, Maryland, and the State of New Jersey have also implemented capacity allocation or set-aside policies to address housing issues (see discussion under "Allocating Capacity," above).